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<110> Nessler, Craig  
Lorence, Argelia  
Chevone, Boris  
Mendes, Pedro

<120> Manipulation of Ascorbic acid Levels in Plants

<130> 01640421aa

<150> US 60/433,787

<151> 2002-12-17

<150> PCT/US03/27779

<151> 2003-09-08

<160> 4

<170> PatentIn version 3.2

<210> 1

<211> 21

<212> DNA

<213> Artificial

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<223> Synthetic oligonucleotide primer for miox gene (forward)

<400> 1

cccatggcga tctctgttga g

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<212> DNA

<213> Arabidopsis thaliana

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<221> Source

<222> (1)..(954)

<223> nucleic acid sequence of A. thaliana miox4 cDNA PCR product

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ggggacaata tcggagagtt gaaattggac ggaggatttt cgatgccgaa aatggacacc 120

aatgacgacg aagctttttt ggctcctgag atgaatgcat ttggccgcca attcagggac 180

• • • • •

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gtgatgagca	tttgggaatg	ttgtgagctt	ctcaatgagg	ttgtggatga	gagtgatcca	360
gatcttgacg	agccccagat	tcagcattttg	cttcaatctg	ccgaagccat	ccgcaaagat	420
taccctaata	g	g	g	g	g	480
actcttcac	aattcggagg	acttcctcaa	tgggctgttg	ttggtgacac	attccctggt	540
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accttgccgt	cggctggaca	gtttatcata	agataccact	cctttttacc	tttgcacacg	780
gctggagaat	acacccatct	tatgaacgag	gaagacaagg	agaatctgaa	gtggctacac	840
gttttcaaca	agtacgactt	gtacagtaag	agcaaagttc	acgttgatgt	ggagaaggtc	900
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<212> PRT
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<220>
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<222> (1)..(318)
<223> Amino acid sequence of A. thaliana miox4 cDNA product
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35 40 45

Pro Glu Met Asn Ala Phe Gly Arg Gln Phe Arg Asp Tyr Asp Val Glu  
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Ser Glu Arg Gln Lys Gly Val Glu Glu Phe Tyr Arg Leu Arg His Ile  
65 70 75 80

Asn Gln Thr Val Asp Phe Val Lys Lys Met Arg Ala Glu Tyr Gly Lys  
85 90 95

Sequence Listing US.ST25.txt

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 His Leu Leu Gln Ser Ala Glu Ala Ile Arg Lys Asp Tyr Pro Asn Glu  
 130 135 140  
 Asp Trp Leu His Leu Thr Ala Leu Ile His Asp Leu Gly Lys Val Ile  
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 Thr Leu Pro Gln Phe Gly Gly Leu Pro Gln Trp Ala Val Val Gly Asp  
 165 170 175  
 Thr Phe Pro Val Gly Cys Ala Phe Asp Glu Ser Asn Val His His Lys  
 180 185 190  
 Tyr Phe Val Glu Asn Pro Asp Phe His Asn Glu Thr Tyr Asn Thr Lys  
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 Asn Gly Ile Tyr Ser Glu Gly Cys Gly Leu Asn Asn Val Met Met Ser  
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 Trp Gly His Asp Asp Tyr Met Tyr Leu Val Ala Lys Glu Asn Gly Ser  
 225 230 235 240  
 Thr Leu Pro Ser Ala Gly Gln Phe Ile Ile Arg Tyr His Ser Phe Tyr  
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 Pro Leu His Thr Ala Gly Glu Tyr Thr His Leu Met Asn Glu Glu Asp  
 260 265 270  
 Lys Glu Asn Leu Lys Trp Leu His Val Phe Asn Lys Tyr Asp Leu Tyr  
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 Ser Lys Ser Lys Val His Val Asp Val Glu Lys Val Glu Pro Tyr Tyr  
 290 295 300  
 Met Ser Leu Ile Lys Lys Tyr Phe Pro Glu Asn Leu Arg Trp  
 305 310 315